



Guidelines for Fast-Set, Slow-Set and ENDURE™ Admixtures

Scoops are provided with all Phoscrete Admixtures. **Be careful to use the correctly labeled scoop!**

Phoscrete Dry Mix and Admixture Measure and Scoop Sizes								
Packaging	Lbs	Kg	Fast-Set Scoop (1/4%)		Slow-Set Scoop (1/2%)		Endure Scoop (1/3%)	
			grams	scoop label	grams	scoop label	grams	scoop label
HC Pail	9.7	4.4	11	[A] 10 cc (0.33 oz)	22	[D] 23 cc (0.78 oz)	44	[D] 23 cc (0.78 oz)
HC Bag	55	25	62	[B] 53 cc (1.8 oz)	125	[E] 150 cc (5 oz)	250	[G] 118 cc (4 oz)
VO Pail	10.8	4.9	11	[A] 10 cc (0.33 oz)	22	[D] 23 cc (0.78 oz)	50	[D] 23 cc (0.78 oz)
VO Bag*	30	13.6	35	[C] 30 cc (1 oz)	70	[F] 90 cc (3 oz)	140	[H] 60 cc (2 oz)
SG Bag	55	25	62	[B] 53 cc (1.8 oz)	125	[E] 150 cc (5 oz)	250	[G] 118 cc (4 oz)

* Phoscrete VO kit is packaged [2] bags Dry Mix to [1] jug of Activator. This table assumes mixing only [1] bag with a measured ½ jug of Activator. Double the dose indicated in this chart for a full [2] bag kit mix.

ALWAYS USE [3] SCOOPS OF PHOSCRETE ENDURE™ ADMIX (1% by weight of dry mix)

In addition to using the Admixtures, chill Liquid Activator to 40°F (5°C) when the ambient temperature exceeds 70°F (20°C). When the ambient temperature is above 95°F (35°C) supercool the Liquid Activator to 10°F (-12°C). Please review additional considerations on Page [5] of this document because actual field conditions are different from controlled laboratory testing environments.

Phoscrete Fast-Set and Slow-Set Admix Usage Chart					
Dry Mix Temperature	Activator Temperature	Admix Scoops	Working (min)	Initial (min)	Traffic Ready† (min)
Below +15°F [Below -10°C]	same as dry	8 – 10 Fast-Set	12-15	20	75+
15°F to 25°F [-10° to -5°C]	same as dry	6 – 8 Fast-Set	11-14	20	60
25°F to 32°F [-5°C to 0°C]	same as dry	4 - 6 Fast-Set	11-14	20	60
32°F to 40°F [0°C to 5°C]	same as dry	2 - 4 Fast-Set	11-14	17	60
40°F to 50°F [5°C to 10°C]	same as dry	1 - 2 Fast-Set	10-13	15	60
50°F to 70°F [10°C to 20°C]	same as dry	None	7-13	10-15	30
70°F to 85°F [20°C to 30°C]	40°F (5°C)	1 Slow-Set	8-10	10-12	30
85°F to 95°F [30°C to 35°C]	40°F (5°C)	1 Slow-Set	5-9	7-11	15
Above 95°F [Above 35°C]	10°F (-12°C)	1 Slow-Set	4-6	6-8	12

†Phoscrete MALP concretes typically achieve compressive strengths of 4,000 psi in less than one hour.

FHWA advises >2,000 psi to open a repaired concrete road or bridge deck to heavy-duty rubber-tire traffic.



Basic instructions for mixing Phoscrete in a bucket or pail using Admixtures:

- Refer to the complete All Temperature Guidelines and Installation Guides for complete instructions.
- Never exceed 10 scoops of Fast-Set Admix. Better to warm the two components, Dry Mix and Liquid Activator, prior to mixing in very cold temperatures. Never use more than 1 scoop Slow-Set Admix. Use exactly 3 scoops Endure™ Admix
- Always chill the Liquid Activator to 40°F (5°C) or colder when temperatures exceed 70°F (20°C) to extend working time. This is particularly important when working with large volumes of Phoscrete.
- Empty the entire contents of Phoscrete Liquid Activator into the bucket. **Always add liquid first!**
- Next, add the appropriate number of level scoops of Fast/Slow-Set and/or Endure Admix to the liquid.
- Finally, add the entire Dry Mix bag to the liquid, and mix for approximately 45 seconds or until no dry material remains. **Do not over mix!**

Considerations for using Phoscrete Admixtures and Cooling the Liquid Activator:

For practical purposes when on the job site, refer to the following definitions:

Working Time is how long Phoscrete can be moved with a trowel to improve the finish.

Initial Set Time is when the central core of the placed Phoscrete material begins to harden.

Final Set Time is when Phoscrete is hardened to the point that a carpenter nail cannot be pressed into the edge of the placed material. Phoscrete sets from the inside out and is traffic-ready† almost immediately following the final set.

The Admix usage charts on Page [6] assume equivalent Dry Mix, substrate, and ambient temperatures. However, on the job site, many factors impact working and set times, including:

• Ambient temperature	• Liquid Activator temperature	• Volume of material placed
• Substrate temperature	• Dry Mix temperature	

If the substrate is significantly colder (freezer floor), or hotter (hot sunny day) than Phoscrete’s two components, consider that the heatsink from the cold substrate will slow the set time down. When the substrate is hotter, the heat from the hot substrate will reduce the working time and speed up the set.

In cold storage facilities and/or cold climates, heating the substrate allows the exothermic reaction to set faster. Use a blow torch and gently “kiss” the substrate surface prior to placement of Phoscrete to remove ice crystals and warm the surface. *Be careful not to heat the substrate for an extended period to avoid loss of compressive strength!* Placed Phoscrete may also be gently heated to accelerate the set.

When Phoscrete Dry Mix and Liquid Activator are mixed, an exothermic reaction occurs, and the placed material gets very hot, oftentimes reaching a temperature greater than 150°F (70°C). Large volumes of material is placed in cold temperatures suggests using less Fast-Set Admix toward the end of the placement. In hot temperatures, save the coldest Activator for the final mixes.

Unlike conventional Portland cement-based repair materials, Phoscrete bonds strong to itself, wet or cured, with no cold joints. The entire patch does not need to be poured and finished all at once. On large volume pours, it may be advisable to wait for the material to set and cool down before mixing and placing the final lift to get the best finish.

Final recommendations: Keep Dry Mix and Liquid Activator cool and out of direct sunlight. Use a temperature gun to monitor the temperature of the applied product to know when to start grinding and/or sealing. Always take time for quality site preparation. Phoscrete requires a clean, dry, and structurally sound concrete substrate. When the surface develops a “skin” stop finishing. The more experience contractors gain working with Phoscrete products, the faster and better they will become.

If you have questions, contact your local Phoscrete representative or call our corporate offices for application assistance.